

## REMARKS:

Claims 10-17 are pending in the application, with claims 1-9 and 18-25 cancelled as a result of the Restriction Request of April 8, 2009, and to focus prosecution specifically on repair methods.

Claims 10-13, 16-18, 21 and 22 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Minayoshi et al. (U.S. Patent No. 6,890,461, "Minayoshi") in view of Thom (German Patent No. 19625259), while claims 14 and 15 were rejected under 35 U.S.C. 103(a) as being unpatentable over Minayoshi and Thom in view of Hillyer (U.S. Patent No. 3,477,979) and claims 23-25 were rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Minayoshi and Thom in view of Trimble (U.S. Patent No. 4,923,203). Only the rejection of claims 10-17 are addressed below.

The sole pending independent claim (claim 10) recites a method for repairing, *in situ*, a hollow support structure that has a deteriorated portion by placing a high tensile strength sleeve inside the structure such that the sleeve extends over the depth of the deteriorated portion and filling the sleeve with an aggregate material such that the aggregate fills the sleeve at least over the depth of the deteriorated portion.

The Examiner combines the aggregate reinforcing method of Minayoshi with the sleeve of Thom to arrive at claim 10. However, as pointed out by the Supreme Court in *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398 (2007) at page 418, "a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art." Rather, the Court stated:

[I]t can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements *in the way the claimed new invention does*...because inventions in most, if not all, instances rely upon building blocks long since uncovered, and claimed discoveries almost of necessity will be combinations of what, in some sense, is already known.

*KSR Int'l Co. v. Teleflex Inc.*, at 418-419 (emphasis added).

The Applicant respectfully submits that the combination of Minayoshi and Thom does not teach or suggest a repair method in the way the claimed new invention does. The Examiner states that Minayoshi teaches a method for "repairing" a hollow support structure (citing col. 1 at lines 12-14 and 54-58). However, the word "repair" does not appear in the cited passages or anywhere else in Minayoshi. So while the Applicant claims a repair method that recites placing a sleeve and filling it with aggregate over a deteriorated portion, Minayoshi is expressly directed to reinforcement and not repair of hollow poles.

Reinforcement is not the same as repair. Repair means to restore to a good or sound condition after decay or damage. As such, damage is a prerequisite to repair and guides exactly where and how a repair method is applied. To reinforce means to strengthen with some added piece, support, or material. Damage is neither required nor necessarily implied, and, thus, the location of reinforcement is dictated by where structural failure is predicted to occur at a future time (such as the area of a pole proximal to where it goes into the ground).

Accordingly, Minayoshi teaches many embodiments in which some parts of the pole are merely filled with mortar and not a reinforcement member in combination with an aggregate (e.g., section 106 in Fig. 1, 206 in Fig. 4, and 306 in Fig. 8 are not reinforced at all—they merely provide a mortar base upon which the reinforced portion of the pole is constructed; see col. 6, lines 3-9). Such teachings suggest that the reinforcement method is directed to general areas thought to be at risk of future failure over time due to weather and/or weight loads.


Furthermore, col. 1, lines 15-16 of Minayoshi states that reinforcement is done to deal with "aging change" ("In cases of reinforcing the existing concrete electric pole for dealing with the aging change thereof and so on..."). If by "aging change" Minayoshi et al. meant to imply present damage of the pole was being repaired, surely there would be some disclosure of applying the reinforcement method to a damaged area. However, no figure in this reference illustrates damage, deterioration, or repair, and none of those words are found anywhere in Minayoshi's written description. Instead, all disclosure is directed to reinforcing certain areas of the pole without regard to whether the reinforced area "extends over" or "fills the hollow support structure at least over the depth of the deteriorated portion" in the manner claimed by Applicant.

In view of the teachings of Minayoshi, adding the sleeve of Thom to that reinforcement method does nothing to cure the failure of Minayoshi to teach or suggest a repair method featuring a sleeve and aggregate that "extends over" and that "fills the hollow support structure at least over the depth of the deteriorated portion" of a hollow support structure. In other words, even if we assume that one of ordinary skill would use Thom's sleeve to further reinforce a pole according to the primary reference's method, there still is no guidance in Minayoshi as to where such a sleeve would be placed for repair such that it extends over a deteriorated portion.

To the extent that the Examiner believes that Minayoshi's reinforcement method would be used by one of ordinary skill in combination with Thom's sleeve for repair of deteriorated areas despite no express disclosure in the primary reference of such,<sup>e</sup> Thom notes that it is undesirable to use reinforced concrete for repair in a mast pipe. Among other reasons, Thom states that "the different flexural rigidities of the reinforced concrete and the metallic mast pipe lead after some time to loosening features, which impair the durability of the [filled pipe]." See page 1, paragraphs 5-7, of the machine translation referenced in the Office Action. Thus, one of ordinary skill would likely disfavor Minayoshi's reinforcement method for repairs of deteriorated areas (which would be weaker than undamaged areas) because one would not want to impair the durability of a repair by adding reinforced concrete to a deteriorated/damaged area.

Except for the fee due for a 3-month time extension petition and the RCE fee, no fee is believed to be due. Should there be any unforeseen fee or credit, please charge or apply it to deposit account 17-0055.

Respectfully submitted,



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